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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/520,617	01/10/2005	Muneyasu Fukunaga	OGW-0350	9646
23353	7590	05/08/2006	EXAMINER	
RADER FISHMAN & GRAUER PLLC LION BUILDING 1233 20TH STREET N.W., SUITE 501 WASHINGTON, DC 20036			FISCHER, JUSTIN R	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 05/08/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/520,617

Applicant(s)

FUKUNAGA, MUNEYASU

Examiner

Justin R. Fischer

Art Unit

1733

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10 January 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 8 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 11005.21105.51905.

- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, 4-6, and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hollins (US 3,827,792) and further in view of Iketani (JP 10-86609), Fukunaga (US 5,837,072), and Neal (US 3,815,651). In an analogous manner to the claimed invention, Hollins teaches a compound solid tire comprising a core tire 16 and an annular cover tire 14, wherein the outer peripheral surface of said core tire is provided with a plurality of cavities 16c and the inner peripheral surface of said cover tire is provided with a plurality of protrusions 14a. It is noted that Hollins specifically teaches that such an interlocking structure prevents the core tire from moving relative to the cover tire as commonly occurs in similar compound solid tires (Column 5, Lines 15-25). In regards to the specific arrangement of the interlocking structure, Hollins suggests that a wide variety of configurations and locations can be used (Column 3, Lines 50-60). One of ordinary skill in the art at the time of the invention would have found it obvious to use a combination of longitudinal and axial cavities/protrusions as such an interlocking structure is common in the tire industry, as shown for example by Iketani (Abstract and Figures) and Fukunaga (Figures 2B and 3B). It is emphasized that Hollins, in an analogous manner to the claimed invention, teaches the inclusion of

Art Unit: 1733

an interlocking structure between an core tire and a cover tire to eliminate any movement or deviation between the two- the particular arrangement of said structure would have been obvious in view of the generic disclosure by Hollins noted above.

Lastly, in regards to the length of the core tire and the cover tire, it is extremely well known and conventional in the tire industry to form an outer member with a smaller length in order to provide a tight fit between two components, as shown for example by Neal (Page 3, Lines 10-20). It is further noted that such a design is commonly applied with a tire mounted on a rim (tire diameter or length is commonly slightly smaller than the rim diameter to achieve the same tightness). Thus, one of ordinary skill in the art at the time of the invention would have found it obvious to form the core tire and cover in accordance to the claimed lengths.

Regarding claim 2, the respective widths are extremely similar to one another- one of ordinary skill in the art at the time of the invention would have expected the respective tires to satisfy the claimed range.

As to claim 4, portion 14b can be viewed as a flange that is disposed on the inner peripheral edge of the side part of the cover tire.

Regarding claim 5, the broad ranges of the claimed invention appear to be satisfied by the general construction depicted by Hollins. In any event, one of ordinary skill in the art at the time of the invention would have found the claimed ranges obvious as they define a broad range of values, it being well recognized that the specific thickness of certain layers or components is a function of the specific tire being

Art Unit: 1733

manufactured. Additionally, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed arrangement.

As to claim 6, Hollins teaches that the cover tire 14 can be formed of the same type of rubber which is used to make present day tires (Column 4, Lines 5-10). It is well recognized that the claimed properties are consistent with the well-known and conventional rubber compositions used to manufacture present day tires.

Regarding claim 7, as noted above, one of ordinary skill in the art at the time of the invention would have readily appreciated a wide range of interlocking arrangements in view of the general disclosure by Hollins. It is emphasized that Hollins, in an analogous manner to the claimed invention, teaches the inclusion of an interlocking assembly between a core tire and a cover tire to eliminate movement or deviation between the two.

3. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hollins, Iketani, Fukunaga, and Neal as applied in claim 1 above and further in view of Nakayama (JP 5-154941). As detailed above, Hollins substantially teaches the compound solid tire construction of the claimed invention. Hollins, however, is completely silent with respect to the respective radii of curvature. In any event, the claimed range is consistent with the known relationship in similar tires having outermost layers and innermost layers, as shown for example by Nakayama. In this instance, the claimed range falls completely within range disclosed by Nakayama. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of

Art Unit: 1733

the invention would have found it obvious to for the respective surfaces with radii of curvature satisfying the range of the claimed invention.

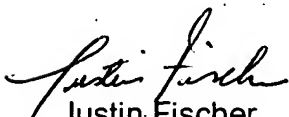
**Conclusion**

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Chrsitel (DE 2755111) and Continental (DE 2510519) are directed to solid tire constructions comprising an interlocking assembly.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Justin Fischer  
May 4, 2006